

REMARKS

Claims 1-25 are pending in the application.

Claims 1, 4-9, 13-17, 19-20, 22-25 stand rejected under 35 U.S.C. 102(a) as being anticipated by Deboer. Applicants request reconsideration.

Applicants note that rejection of the subject claims under 102(a) is improper. Deboer does not constitute a disclosure "patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant," as stated in 102(a). Further, the invention was not "known or used by others," as stated in 102(a), since MPEP 2132 states that public knowledge or use is required. Deboer issued on January 30, 2001 after the October 31, 2000 filing date of the present application. Deboer was thus not public before the present application's filing date. Rather, Deboer only qualifies as art under 102(e) and Applicants further assert that a finding of anticipation under such section is also improper.

Claims 1 sets forth a capacitor fabrication method that includes, among other features forming an electrode, atomic layer depositing a conductive barrier layer to oxygen diffusion over the electrode, forming a dielectric layer, and forming another electrode. The present application clearly defines and distinguishes "atomic layer depositing" in page 5, line 21 to page 10, line 2 and elsewhere within the present application. Page 3 of Office Action states that Deboer discloses atomic layer forming a conductive barrier layer. However, thorough review of Deboer reveals that not even a mention of "atomic layer depositing" or a similar process is made therein. Anticipation requires disclosure of each and every element. Accordingly, Deboer does not anticipate claim 1 at least for the

reasons described above.

Claims 4-9 depend from claim 1 and are further not anticipated by Deboer at least for such reason as well as the additional limitations of such claims not disclosed.

Claim 13 sets forth a capacitor fabrication method that includes, among other features, forming an electrode, chemisorbing a layer of a first precursor at least one monolayer thick over the electrode, and chemisorbing a layer of a second precursor at least one monolayer thick on the first precursor layer. A chemisorption product of the first and second precursor layers is comprised by a layer of a conductive barrier material. The method further includes forming a dielectric layer and forming another electrode. Notably, page 3 of the Office Action does not even allege that Deboer discloses chemisorbing a first precursor, chemisorbing a second precursor, or a chemisorption product of the first and second precursors. Thorough review of Deboer reveals that not even a mention is made of "chemisorbing a layer" or a "chemisorption product" as set forth in claim 13. Since anticipation requires disclosure of each and every element, Deboer does not anticipate claim 13.

Claims 13-17, 19, 20, and 22-25 depend from claim 13 and are further not anticipated at least for such reason as well as the additional limitations of such claims not disclosed. For example, claim 14 sets forth that the first and second precursor layers each consist essentially of a monolayer. Deboer does not disclose or even suggest precursor layers consisting essentially of monolayers. Also, claim 15 sets forth that the first and second precursor layers each comprise substantially saturated monolayers. Deboer does not disclose or even suggest precursor layers comprising substantially saturated

monolayers. Further, claim 16 sets forth that the first and second precursor each consist essentially of only one chemical species. Deboer does not disclose or even suggest chemisorbing a layer of a first precursor consisting essentially of only one chemical species and chemisorbing a layer of a second precursor consisting essentially of only one chemical species on the first precursor layer. Still further, claim 17 sets forth that the first precursor is different from the second precursor. As indicated, Deboer does not even provide mention of chemisorbing precursors. Claim 19 sets forth that the dielectric of claim 13 is over the conductive barrier layer comprising the chemisorption product of the first and second precursor layers. Claim 19 further sets forth chemisorbing additional alternating first and second precursor layers before forming the dielectric. Clearly, Deboer does not disclose or suggest chemisorbing additional alternating first and second precursor layers.

As established above, claims 1, 4-9, 13-17, 19, 20, and 22-25 cannot be properly rejected under 35 U.S.C. 102(a). Also, such claims are not anticipated by Deboer under any other subsection of 35 U.S.C. 102. Applicants requests allowance of such claims in the next Office Action.

Claims 2-3, 10-12, 18, and 21 stand rejected as being unpatentable over Deboer in view of Agarwal. Applicants request reconsideration. As noted above, Deboer does not qualify as 102(a) art. Agarwal further does not qualify as 102(a) art since such patent issued on April 17, 2001 after the August 31, 2000 filing date of the present application. Applicants further note that Deboer, Agarwal, and present application are commonly assigned to Micron Technology, Inc. Under the express terms of 35 U.S.C. 103(c), neither Deboer nor Agarwal can be used in forming a 103 rejection of the pending claims. At least

for such reason, Applicants assert that the subject claims are patentable over Deboer in view of Agarwal.

Applicants herein establish that all of pending claims 1-25 are patentable over the cited art. Applicants request allowance of all claims in the next Office Action.


Applicants further note that the Form PTO-1449 initialed and returned with the Office Action does not include Examiner initials beside item AP under the heading "Other References." Applicants provided a copy of such reference with the first filed Information Disclosure Statement and request return of an initialed PTO-1449 indicating consideration of the reference. Applicants will gladly provide another copy of the reference if the first copy is not present in the PTO file wrapper.

Applicants further note that no Form PTO-948 has been received indicating approval of the filed formal drawings. Applicants request an indication of drawing approval in the next Office Action.

Respectfully submitted,

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By: _____


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